CLAIMS AMENDMENT

What is claimed is:

[Claim 1](Cancelled)

[Claim 2] (Cancelled)

[Claim 3] (Cancelled)

[Claim 4] (Cancelled)

[Claim 5] (Cancelled)

[Claim 6](New) Electromagnetic propulsion devices comprising:

a barrel; and

a barrel cavity in said barrel which extends the length of the barrel and that has:

a breech end opening at one barrel end, and

a muzzle end opening at the second barrel end, and

throughout said cavity's length a uniform right cross section to said cavity's central axis; and

armatures, that are:

in or for insertion into the breech end of said barrel cavity, and

for propulsion through the barrel cavity towards and out of the cavity's muzzle end, and

each said armature has a central axis that, when in the barrel cavity, is close and parallel or coincident with the barrel cavity's central axis, and

each said armature has:

all right sections taken said armature's central axis smaller then said barrel cavity's uniform right section, and

a portion of said armature's right sections similar to said cavity's uniform right section in

shape and slightly undersized thereof to permit unobstructed traverse of the barrel cavity by said armature; and

two barrel rails which are:

power rails located in the walls of the barrel cavity, and

oriented parallel the cavity central axis, and

located across the barrel cavity from each other, and

each said power rail has:

a connection means at said rail's breech end for attachment of outside circuitry to an outside power source, and

a continuous surface said rails length that is part of the barrel cavity surface and said surface extends the length of the barrel cavity through which an armature uses said power rail for propulsion in the device; and

said barrel power rails divide the barrel cavity wall into two segments whose barrel cavity surface boundaries are:

said muzzle end and said breech end of the barrel cavity, and

said barrel cavity surfaces of said barrel power rails and cavity axis parallel rays therefrom to said cavity's breech end and muzzle end; and

a wall conductor assembly comprised of:

a barrel bus which is located in one of said barrel cavity wall segments and therein oriented parallel, adjacent, and in close proximity one of said power rails and electrically insulated from said power rail, and

a plurality of equal length parallel wall conductors in the barrel cavity wall segment

with said barrel bus and

said wall conductors are spaced from each other along the length of said barrel bus and

each wall conductor of said plurality of wall conductors is:

at or very near the barrel cavity surface of said cavity wall segment, and

physically and electrically continuous with and perpendicular to said barrel bus, and

each said wall conductor:

extends from the barrel bus to close proximity without contact with the barrel power rail distal said barrel bus whereat said wall conductor has and is electrically continuous with, an electrical contact means located at the barrel cavity through an opening into said cavity, and beyond the barrel bus is electrically insulated from said wall conductor's surroundings except at said electrical contact means; and

each of said armature is further comprised of:

a propulsion bus that, with the armature in the barrel cavity, is oriented therein:

to travel in close proximity to the wall conductors of said wall conductor assembly and to carry electric current in a direction that is:

perpendicular to said cavity axis, and

perpendicular to the direction of barrel cavity traverse by said armature, and

parallel to the orientation of said wall conductors of said wall conductor assembly, and

said propulsion bus of an armature in the barrel cavity extends

from proximal the barrel power rail distal said barrel bus, whereat it has

electrical continuity with propulsion bus-aft shunt circuit means, and

therefrom to the cavity surface of the barrel power rail proximal said barrel

bus whereat said propulsion bus has surface that has continuous

electrical continuity with said power rail's cavity surface and said

continuous electrical continuity is continuous sliding electrical

continuity with armature movement in the barrel cavity, and

said propulsion bus of an armature in the barrel cavity,

with exception of above said electrical continuity with said propulsion

bus-aft shunt circuit means and said electrical continuity with the

barrel power rail proximal said barrel bus,

is electrically insulated from direct electrical continuity with all other

conducting elements of the barrel and armature, and

said propulsion bus of an armature in the barrel cavity:

provides continuous electrical continuity between said barrel power

rail proximal said barrel bus and said propulsion bus-aft shunt circuit

means and,

with power supplied to said power rails,

provides a current path between said power rail proximal said barrel

bus and said propulsion bus-aft shunt circuit means; and

a forward current shunt that, with the armature in the barrel cavity, is located

forward said armature's propulsion bus in the direction of cavity

traverse by said armature and

proximal the barrel power rail that is located distal said barrel bus of said wall conductor assembly, and

said forward current shunt has surface in the armature surface proximal the barrel cavity wall with said wall conductor assembly and

said surface has continuous electrical continuity with said contact means of said wall conductors at the instant barrel cavity location of said surface of said forward current shunt and said continuous electrical continuity is continuous sliding electrical continuity with armature movement in the barrel cavity,

and

said forward current shunt also has surface which, with the armature in the barrel cavity, has continuous electrical continuity with the cavity surface of said proximal power rail and said continuous electrical continuity is continuous sliding electrical continuity with armature moment in the barrel cavity; and

said wall conductor assembly has additionally, with an armature in said barrel cavity,

forward wall conductors comprised of:

the group of one or more consecutive wall conductors of said wall conductor assembly whose contact means at any instant have said electrical continuity with said forward current shunt surface; and

said forward current shunt, of an armature in the barrel cavity, provides,

via said shunt's surface with continuous electrical continuity with said proximal power rail and said shunt's surface with continuous electrical continuity with said forward wall conductors,

continuous electrical continuity between said power rail and said forward wall conductor of said wall conductor assembly, and,

provides, with power supplied to said power rails,

a current path between said proximal power rail and said forward wall conductors of said wall conductor assembly and

said forward current shunt of said armature in said barrel cavity,

except for said continuous electrical continuity with said forward wall conductors and said continuous electrical continuity with said proximal power rail,

is electrically insulated from direct electrical continuity with the rest of the armature and barrel; and

an aft current shunt that, with the armature in the barrel cavity, is located

aft said armature's propulsion bus in the direction of cavity traverse by said armature and

proximal the barrel power rail that is located distal said barrel bus of said wall conductor assembly, and

said aft current shunt has surface in the armature surface proximal the barrel cavity wall with said wall conductor assembly and

said aft shunt surface has continuous electrical continuity with said contact means of said wall conductors at the instant barrel cavity location of said aft current shunt surface and said continuous electrical continuity is continuous sliding electrical continuity with armature movement in the barrel cavity; and

said wall conductor assembly has additionally, with an armature in said barrel cavity,

aft wall conductors comprised of:

the group of one or more consecutive wall conductors of said wall conductor assembly whose contact means at any instant have said electrical continuity with said aft current shunt surface; and

said aft current shunt, of an armature in said barrel cavity provides, via said continuous electrical continuity with the propulsion bus-aft shunt circuit means and said continuous electrical continuity with said aft wall conductors,

continuous electrical continuity between said propulsion bus-aft shunt circuit means and said aft wall conductors of said wall conductor assembly,

and, with power supplied to said power rails, provides

a current path between said propulsion bus-aft shunt circuit means and said aft wall conductors of said wall conductor assembly, and

said aft current shunt of an armature in said barrel cavity, except for said continuous electrical continuity with said aft wall conductors and said continuous electrical continuity with said propulsion bus-aft shunt circuit means,

is electrically insulated from direct electrical continuity with the rest of the armature and barrel; and

said barrel bus of said wall conductor assembly, with an armature in the barrel cavity, provides continuous electrical continuity between said forward wall conductors and said aft wall conductors of said wall conductor assembly and with power supplied to the power rails and an armature

in the barrel cavity, said barrel bus provides a current path between said forward wall conductors and said aft wall conductors; and

in which with

an outside power source attached to the connection means of the two power rails and an armature of the claimed device in or inserted into the breech end of said barrel cavity where said power rails and said wall conductor assembly are extant,

the electric current path in the device effecting electromagnetic propulsion of the armature in the barrel cavity toward the muzzle is extant and remains so while the armature is completely in the barrel cavity where said rails and said wall conductor assembly are extant; and

the magnetic fields of the electric currents in:

said barrel power rails and

said forward wall conductors, and

said aft wall conductors and

said barrel bus of said wall conductor assembly,

interact with the electric current in said propulsion bus of said armature creating the forces therein with barrel cavity axis parallel, barrel muzzle directed components which propel said armature in the barrel cavity towards the barrel muzzle.

[Claim 7] (New) Electromagnetic propulsion devices as claimed in claim 6 wherein, with an armature in the barrel cavity, the propulsion bus-aft shunt circuit means is comprised of:

an additional barrel rail which is:

located parallel, adjacent, and in close proximity to said barrel power rail distal said barrel bus, and electrically insulated therefrom, and

along the length of said additional barrel rail there is continuous barrel cavity surface; and

additional surface on said aft current shunt and said additional surface on said aft current shunt has continuous electrical continuity with said barrel cavity surface of said additional barrel rail and said continuous electrical continuity is continuous sliding electrical continuity with armature movement in the barrel cavity; and

additional surface on the propulsion bus and said additional surface is proximal said additional barrel rail and said surface has continuous electric continuity with the cavity surface of said additional barrel rail and said continuous electrical continuity is continuous sliding electrical continuity with armature movement in the barrel cavity.

[Claim 8] (New)Electromagnetic propulsion devices as claimed in claim 6 wherein the propulsion bus-aft shunt circuit means is comprised:

an electric current bus in the armature between and connecting the armature aft current shunt and the armature propulsion bus.

[Claim 9] (New) Electromagnetic propulsion devices as claimed in claim 6 wherein:

said barrel cavity has a twist so that consecutive barrel cavity right sections, when taken at incremental increasing muzzle directed distances from a point at the breech on the cavity axis, have like shape and area but have incremental increasing

angular displacement about the cavity axis from the initial point and said right cavity section angular displacement per unit axial distance is constant and the barrel cavity thereby imparts a rotation about said axis to an armature of the device traversing said cavity; and

said armatures have structure and surfaces

with the same twist about the armature axis as the barrel cavity twist in angle displacement per unit axial distance so as to permit proper function of said armature while rotating about said armature's axis while moving in the barrel cavity and during unobstructed traverse of the barrel cavity by said armature while rotating about said axis; and

said wall conductors of said wall conductor assembly of said barrel with said twist are not perpendicular to said barrel bus of said assembly; however said wall conductors remain orthogonal the barrel cavity axis.

[Claim 10](New)

Electromagnetic propulsion devices as claimed in claim 6 wherein an armature is mounted in the barrel proximal the barrel's breech end for release and propulsion in the barrel cavity on application of sufficient power to the power rails.

Monday, February 13, 2006

Closing Comments:

Dear Examiner:

In response to the office letter of 11/22/2005, the original 5 claims relevant the elected species of patent application 10/707,607 have been cancelled and replaced by the forgoing 5 new claims # 6-10.

As pointed out in the office letter of 11/22/2005, the expression "similar... length" and "similar....location" make the claim indefinite. These expressions are not included in new claim 6 or new claim 7. Discussion of variation in the length of the power rails etc. can be found in the original specifications paragraphs 100-104.

The portion of claim 1 including "and the armature direction of traverse..." has been restated with armature changed to "armature's" and the sentence restructured in new claim 6. See lines 62-69.

Aft wall conductors are defined in lines 138-142 of claim 6 as are forward wall conductors, lines 107-111.

The new claims 6-10 have appropriate introductory clauses.

In claim 7 (former claim 2) the surfaces on the aft current shunt and propulsion bus are now indicated as additional surfaces to differentiate from the surfaces used in the propulsion bus-aft shunt means from those surfaces of the aft current shunt and propulsion bus previously indicated in claim 6.

In claim 9 (former claim 4), lines 15 through 17, the clause noting the change in characteristics of the wall conductor assembly required in the barrel with a twist, might

be removed if lines 51-53 of claim 6 where modified to "... , and physically and electrically continuous with said barrel bus and orthogonal said barrel cavity axis, and ...". A change I would make by additional amendment if permitted.

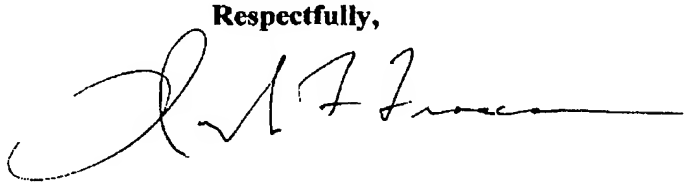
These claims do not use the word "its".

I hope you find the claims in this amendment acceptable.

On other matters, should I prepare a substitute specification and additional drawings, to make the application properly complete? Please advise.

Thank you for your attention.

Respectfully,



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